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1401 H Street, N.W.
Suite 1020
Washington, D.C. 20005
Office 202/326-3822

Ameritech

Anthony M. Alessi
Director
Federal Relations

November 3, 1994

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, NW
Room 222
Washington, DC 20554

Re: **Ex Parte Statement**
Docket No. 94-1

Dear Mr. Caton:

Ameritech is submitting in the above referenced docket the attached written ex parte statement, "Comments on Promises vs. Reality" prepared by Professor Pablo T. Spiller of the University of California at Berkeley. In this paper, Professor Spiller addresses a recent study by W. P. Montgomery and concludes that Mr. Montgomery's study should not be relied upon to analyze the relationship between incentive regulation and infrastructure improvements.

In the Commission's current review of price cap regulation for local exchange carriers, Ameritech has advocated that the Commission should eliminate the price cap sharing mechanism to create greater incentives to deploy new services and technologies in an increasingly competitive marketplace. Ameritech believes that the Commission can find substantial support for the elimination of the price cap sharing mechanism in the study by Professor Spiller submitted with Ameritech's reply comments on June 29, 1994. Professor Spiller's study empirically demonstrates that pure price cap regulation, without sharing, has a significantly greater effect in stimulating infrastructure deployment than price caps coupled with earnings sharing.

Sincerely,

Anthony M. Alessi

Attachment

cc: A. Belinfante
A. Bush
F. Franklin
A. Gomez
D. Grosh
M. Katz
K. Levitz
D. Nall
T. Quaile
M. Uretsky
J. Wall

COMMENTS ON

PROMISES VS. REALITY: TELECOMMUNICATIONS INFRASTRUCTURE, LEC INVESTMENT AND REGULATORY REFORM

A PAPER BY WILLIAM PAGE MONTGOMERY, AUGUST 1994

by

Pablo T. Spiller
Haas School of Business
University of California, Berkeley
and
Law & Economics Consulting Group, Inc.

I. Introduction

The study by W.P. Montgomery is an attempt to analyze the relation between incentive regulation and infrastructure investments. The author reaches the conclusion that there is no relation between the two. The author bases his conclusions on a very selective review of prior reports, and on some empirical work. The paper's research design, analysis and inferences, however, are flawed. As a consequence, the perceived policy lessons are invalid and inapplicable to the problem of incentive regulation in telecommunications, or in regulated industries in general.

The paper is flawed in several dimensions. Its research design, its analysis and inferences, and its policy recommendations are all flawed. The paper also seems to advocate a style of regulation that has never existed in the United States: complete regulatory control over investment and prices. Such control would require continuous regulatory supervision, totally eliminating any type of cost-incentives by the LECs.

Because of its flaws, the research design is geared towards the conclusion that incentive regulation has no public interest benefits. Because the paper generates very strong policy conclusions I find that it is worth discussing its shortcomings in detail. I will divide my comments in three parts: research design, analysis and inferences, and policy recommendations.

II. The Research Design is Flawed

There are six basic problems with the research design: a) the paper asks the wrong question; b) there are no "controls;" c) its review of prior analysis selectively discards studies finding positive effects to incentive regulation; d) its empirical survey is incomplete and not random; e) the empirical survey collapses all incentive regulation schemes into one, and finally, f) the measures it uses are wrong.

i. The Paper Asks the Wrong Question

The paper asks the following question: what has happened since the passage of an incentive plan, and how does it compare to what happened prior to the introduction of the plan. This is the wrong question to ask. The right question to ask is: what has happened since the introduction of the incentive plan, and *WHAT WOULD HAVE HAPPENED IF THE PLAN HAD NOT BEEN INTRODUCED?*

Thus, for example, in treating the Vermont case, the question is not whether, following the introduction of the incentive scheme, investment in gross plant (minus a factor for increase in access lines) fell or went up, but rather how would the measure have behaved if the incentive scheme HAD NOT been introduced.

> *A major methodological rule that this paper failed is: ask the right question.*

ii. The Paper's Methodology Does Not Control for Other Factors

Not only does the paper ask the wrong question, but the methodology used to answer it is also flawed. A major flaw is that the author does not control for other factors that may impact the company's decision to invest.

Local Market Conditions

This flaw is particularly damaging given the sample Montgomery chose. Consider, for example, the author's treatment of Vermont. Vermont in the early 1990s experienced a drastic recession. Yet the author compares investment in 1987-89 with 1990-92 without accounting for this factor. Furthermore, the author does not control for economic performance differential across states. States in the same RBOC region can experience large differences in macro-economic performance. (California and Texas are also states that experienced macro-economic difficulties in the early 1990s, at the same time that the incentive schemes were being put in place).

Lack of Explanatory Factors

The author compares the selected company to other RBOCs. Some of the other RBOCs also had incentive schemes, but the author chose not to consider them because of some presumed lack of information. Thus, the "control" group is inappropriate.

Even if the control group had been appropriately selected, the fact that the author does not control for local market conditions generates a fatal flaw in the analysis. A major methodological lesson that this paper brings is the need to control for as many factors as possible. The author chose to control for none. Greenstein, McMaster and Spiller (GMS),[1] on the other hand, attempt to control for the evolution of local market conditions.

> *Thus, a major methodological rule of empirical work that this paper failed is: control for explanatory variables.*

iii. The Paper Does Not Report on Studies Finding Positive Effects to Incentive Regulation

The author also reviews reports by several state regulatory agencies and by some consultants. The author concludes that "every report we obtained that examined whether a particular alternative regulation scheme resulted in more investment came to a negative conclusion. Additionally, several statistical analyses have been made using multi-state, multi-LEC data and have reached the same conclusion." (p.18). Although the paper is dated August 1994, it does not report on at least two other statistical analyses that have attempted to estimate the effect of incentive regulation on infrastructure deployment (e.g., Greenstein, McMaster and Spiller, June 1994, and Taylor, Zarkadas and Zona, 1992). For example, Taylor et al (1992) concludes that their "results indicate that adoption of incentive regulation plans is strongly associated with more rapid modernization for switching and transmission facilities and somewhat less strongly-

[1] Greenstein, S., S. McMaster and P.T. Spiller, "The Effect of Incentive Regulation on Local Exchange Companies Deployment of Digital Infrastructure," University of California, Berkeley, June 1994.

through positively- associated with the diffusion of ISDN and SS7 service platforms." (p2). The fact that the author chose not to include this paper in his survey even though it was widely distributed shows selective representation of previous reports.

iv. The Paper Uses an Incomplete Survey

The author selected a few states to perform his analysis. Unfortunately, the selection criteria is not well specified. It seems that availability of appropriate data on investment and on the nature of the regulatory regime were the main selection criteria. It is, however, not clear that investment information would properly reflect investment decisions even for those states that the author chose to consider.

Information on the regulatory regime is accessible directly from each of the state commissions. The fact that the author discarded states because he could not get an appropriate description of the plan is clearly unacceptable. In GMS we obtained information on the plans from three different types of sources: published reports, direct contacts with all commissions, and direct contacts with LECs. The author could have included more LECs if he had followed our time-consuming approach. As a consequence, the sample is incomplete, leading to incomplete analysis.

> *Thus, a major methodological rule that this paper failed is: be careful with data collection.*

v. The Paper Classifies all States in Same Incentive Scheme Type

As the author recognizes not all incentive schemes provide the same incentives. Indeed, price-cap regimes provide stronger incentives to cut costs and introduce appropriate investments than earnings-sharing schemes. The latter are a marginal deviation of rate of return, and under some circumstances may even reduce the incentives of the LECs as these schemes require a closer follow up of the LEC's performance than under the traditional rate of return regulation scheme.

For example, many such plans require quarterly or annual hearings, and automatic rebates when profits exceeded a certain level. As a consequence, the lessons that are applicable for one type of incentive scheme are not applicable to other types.

Thus, a major methodological rule of empirical work that this paper failed is: be precise in the definition of variables.

vi. The Paper Uses a Poor Choice of Infrastructure Measure

Modernization Expenses Per Access Line Is Not a Good Criterion

The paper assumes that all benefits come from capital additions. The paper distinguishes between gross capital additions and "modernization plant additions per access line." Even without discussing measurement issues (see below), there is no reason for "modernization expenses/access line" to be a good objective. This is for several reasons. First, even without changing long run quality, replacing old and expensive facilities by newer and cheaper ones will translate into a reduction in investment, although there is a reduction in costs. Second, new technology may be cheaper than older technology, and the new technology may increase the quality of service. Here again, the investment in the new technology will translate in a perceived reduction in investment. Third, reorganization of labor and existing capital reduces costs for the same service and uses existing capital in a more efficient manner, reducing investment and increasing productivity.

Indeed, simply adding capital does not necessarily increase productivity or consumer welfare. The author, however, presumes that productivity can be measured by gross plant additions, when productivity gains arise from multiple sources.

Thus, the paper uses a poor measure of productivity improvement.

Basic Problems with Plant Valuations

As the author recognizes, there are major problems in properly measuring investments, and the different jurisdictions may apply inconsistent accounting procedures. These difficulties and inconsistencies moved the author to discard Nebraska from the set of selected states. One should wonder, though, whether any of the measures of plant additions are appropriate.

First, plant valuations have to take into account the real value of "plant capital," but such a measure is difficult to develop when technology changes rapidly. The author, however, does not attempt to measure "real" additions to plant.

Second, accounting rules determine what are additions to gross plant. For example, the policy that the commission may have on work in progress may substantially affect the measure of gross plant additions in a given year.

Third, the author devises a concept of "modernization plant additions per access line." This concept is derived by first computing gross plant additions and subtracting the growth in access lines times $1,300. The author, however, recognizes that the cost of a new line varies from area to area, and in general is in the $1,200 to $2,000 range. This wide difference can produce important biases in the analysis. (Growth in access lines may not reflect the true investment in access lines, as some access lines may have to be replaced.) In GMS we directly measure physical improvements in technology rather than attempt to devise a measure of productivity increase from nominal accounting investment figures.

Thus, a major methodological rule that this paper fails to follow is: use physical rather than dollar measures.

III. The Paper's Analysis and Inference Are Flawed

Not only is the design flawed, but the analysis undertaken and the inferences made from the

analysis are flawed on several levels.

i. The Paper Presumes that Returns on Investment Occur in One Period

Modern telecommunications technology tends to require lumpy additions. For example, fiber optic cable is deployed expecting demand growth. If cable was deployed only for current demand, more investments will have to be undertaken when demand grows, increasing total costs. Thus, investment has to be undertaken, to some extent, ahead of demand. As a consequence, looking at consumption patterns (or at investment cost per current user) right after the investment is made is grossly inappropriate.

ii. The Paper Does not Identify Clear Criteria for Evaluating The Merits of Investments by LECs

Because the author criticizes investments that fail to have immediate demand, the author needs to have a criterion to evaluate in an ex-ante fashion the merits of the LEC's investment pattern. This is, however, most probably impossible to do for an outside observer. That, indeed, is the role of the phone company, and the point of price cap regulation is to fully delegate to the company this decision so that its shareholders totally internalize the management's decisions. Instead, as we will discuss below, the author proposes an extremely bureaucratized decision making process.

Because the author does not provide a clear criterion, we find that the phone company cannot do anything right. Consider the case of Vermont. If NET had invested in the 90/92 period, then the author would have claimed that because of the recession facing the state, the company was investing without customer demand. On the other hand, if, as eventually ocurred, the company stopped investing, then the author will fault it for backsliding on promises. The author claims that investment has to be sensitive to customer demands, nevertheless the whole approach of the paper is to evaluate LEC investments based only on additions to gross plant. Finally, the lack of clear criteria for evaluating investments, together with the fact that investment is risky, implies

that evaluating investments with 20/20 hindsight will eliminate investment incentives.

IV. Policy Suggestions Are Flawed

In an uncertain economic environment, a price-cap scheme provides incentives to reduce costs. The author's recommendations require ex-ante and ex-post supervision, destroying the LEC's incentives to invest.

The four features of his recommendations are also ill-conceived: First, accounting for every future cent of investment implies eliminating incentives to cut costs. Regulatory approval of investments implies that regulators share the risk of bad decisions (whether ex-ante or ex-post). As a consequence, the company's incentives are distorted. Second, comparing investments to "business-as-usual" in a rapidly changing sector implies locking in historical patterns, which is undynamic, inefficient and distortionary. Third, not all investments generate new services. They may be undertaken to reduce costs. Finally, requiring state commissions to forecast demand as a precondition for allowing investments may have the implication of killing most projects, since such demand cannot be known in advance with precision. Risk taking is best being delegated to entrepreneurs and not to regulators. Indeed, the author assumes that the regulator knows what technology and what level of investments are needed. The author seems to discard the last thirty years of regulation research which suggests exactly the opposite.

Furthermore, the policy suggestions are based on clear misunderstandings of what incentive regulation does. First, a price-cap regime will eliminate monopoly abuses, as LECs will not be able to raise prices above some agreed index value, thus achieving the author's desired outcome of controlling monopoly rates. Second, price-caps can create a downward price trend providing customers with continuous benefits from productivity increases. Third, if rebalancing is allowed through a price-cap regime, cross-subsidies can be eliminated. Finally, because price-caps allow for rebalancing of rates, LECs subject to price-caps will be stronger competitors in the market place, further reducing consumer costs of traditional and innovative services.

V. Conclusions

To summarize, the defects with the research design, analysis, inferences and policy recommendations discussed above raise serious questions about the validity of the paper's perceived policy lessons with respect to incentive regulation in telecommunications, and in regulated industries in general.